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EXAMINER

PIZIALI, JEFFREY J

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/721,604	Applicant(s) KAWANO, SEIICHI	
	Examiner Jeff Piziali	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 1 and 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/938,221.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/938,221, filed on 23 August 2001.

Drawings

2. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the figures.

Specification

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claim 1 is objected to because of the following informalities:

The term "***an user***" should be corrected, for example to, "***a user***" (see line 10).

Appropriate correction is required.

5. Claim 3 is objected to because of the following informalities:

The term "***an user***" should be corrected, for example to, "***a user***" (see line 13).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "***a display brightness in a certain window displayed on a screen of the display unit***" (in line 6); "***a screen brightness of the display unit***" (in line 8); and "***the display brightness***" (in line 10).

It would be unclear to one having ordinary skill in the art what "***the display brightness***" limitation is intended to refer to. Is the "***the display brightness***" the "***screen brightness of the display unit***"? Or is the "***the display brightness***" the "***display brightness in the window***"?

An omitted structural cooperative relationship results from the claimed subject matter: "***to improve a visibility of the display unit to an user***" (in line 10).

It would be unclear to one having ordinary skill in the art in what way, manner, or fashion "*the visibility of the display unit to an user*" is to be "*improved*."

9. Claim 1 recites the limitation "*to improve a visibility of the display unit to an user*" (in line 10). There is insufficient antecedent basis for this limitation in the claim. It would be unclear to one having ordinary skill in the art what objective, definable, measurable basis exists for "*a visibility of the display unit*".

10. The term "*to improve a visibility of the display unit to an user*" (in claim 1, line 10) is a relative term which renders the claim indefinite. The term "*to improve*" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art in what way, manner, or fashion "*the visibility of the display unit*" is to be "*improved*." The term, "*to improve*" is entirely subjective and based on undefined inventive goals and intensions. What one artisan considers an "*improvement*" may well be considered a "*flaw*" by another artisan.

11. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as at least being dependent upon a rejected base claim.

Art Unit: 2629

12. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

An omitted structural cooperative relationship results from the claimed subject matter: "*a liquid crystal display unit*" (in line 1); "*a liquid crystal display screen*" (in line 2); "*a brightness of the back-light*" (in line 4); and "*a display brightness*" (in line 6).

It would be unclear to one having ordinary skill in the art what "*the display brightness*" limitation is intended to refer to. Is the "*the display brightness*" the "*brightness of the display unit*"? Or is the "*the display brightness*" the "*brightness of the unit*"? Or is the "*the display brightness*" the "*brightness of the back-light*"?

An omitted structural cooperative relationship results from the claimed subject matter: "*to improve a visibility of the display unit to an user*" (in line 12).

It would be unclear to one having ordinary skill in the art in what way, manner, or fashion "*the visibility of the display unit to an user*" is to be "*improved*."

13. Claim 3 recites the limitation "*to improve a visibility of the display unit to an user*" (in line 12). There is insufficient antecedent basis for this limitation in the claim. It would be unclear to one having ordinary skill in the art what objective, definable, measurable basis exists for "*a visibility of the display unit*".

14. The term "***to improve a visibility of the display unit to an user***" (in claim 3, line 12) is a relative term which renders the claim indefinite. The term "***to improve***" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It would be unclear to one having ordinary skill in the art in what way, manner, or fashion "***the visibility of the display unit***" is to be "***improved***." The term, "***to improve***" is entirely subjective and based on undefined inventive goals and intentions. What one artisan considers an "***improvement***" may well be considered a "***flaw***" by another artisan.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by ***Evanicky et al (US 6,611,249 B1)***.

Regarding claim 1, *Evanicky* discloses a computer system [e.g., Fig. 1; 10], comprising:
a processor [e.g., Fig. 1; 12] for executing an arithmetic operation (see the entire document, including Column 6, Line 15 - Column 7, Line 12); and

a display unit [e.g., Fig. 2; 216] for displaying a result [e.g., Fig. 17; 1100] of the arithmetic operation executed by the processor (see the entire document, including Column 7, Lines 15-56);

wherein the processor executes the following processings:

detecting [e.g., Fig. 14D; 800] a display brightness in a certain window [e.g., Fig. 17; 1140] displayed on a screen [e.g., Figs. 2 & 17; 210] of the display unit; and

controlling the display unit so as to change a screen brightness of the display unit according to the detected display brightness in the window (see the entire document, including Column 18, Line 30 - Column 20, Line 24) to change the display brightness [e.g., Fig. 16; 1060] to improve a visibility of the display unit to an user viewing the display unit (see the entire document, including Column 2, Lines 27-60).

Regarding claim 2, *Evanicky* discloses the processor is controlled by an operating system (see the entire document, including Column 19, Lines 58-67) having a power management function and wherein the processor controls (see the entire document, including Column 12, Lines 38-55) the display unit with use of the power management function of the operating system so as to change the screen brightness of the display unit (see the entire document, including Column 15, Lines 42-58).

Regarding claim 3, this claim is rejected by the reasoning applied in rejecting claim 1; furthermore, *Evanicky* discloses a liquid crystal display unit [e.g., Fig. 2; 216], comprising:

a liquid crystal display screen [e.g., Figs. 2, 3, and 17; 210] for displaying a first image (see the entire document, including Column 7, Line 57 - Column 10, Line 14);

a back-light [e.g., Fig. 3; 132, 136] for lighting the liquid crystal display screen; and

a brightness controller [e.g., Fig. 1; 12] for controlling a brightness of the back-light (see the entire document, including Column 7, Lines 15-56);

wherein the brightness controller executes the following processings:

receiving a brightness control signal [e.g., Fig. 14D; 800] generated according to a display brightness in a specific area [e.g., Fig. 17; 1140] calculated from a draw signal in a second image in the specific area (see the entire document, including Column 19, Line 48 - Column 20, Line 24),

the second image being selected from a plurality of images to be displayed in the liquid crystal display screen; and

changing the brightness [e.g., Fig. 16; 1060] of the back-light according to the brightness control signal (see the entire document, including Column 18, Line 30 - Column 19, Line 47) to change the display brightness to improve a visibility of the display unit to an user viewing the display unit (see the entire document, including Column 2, Lines 27-60).

Response to Arguments

17. Applicant's arguments filed 18 March 2008 have been fully considered but they are not persuasive.

The Applicant contends, "*Evanicky discloses a graphic user interface which provides a color profiling or calibration tool for adjusting the display brightness of images in a window (Column 19, Line 48 -- Column 20, Line 24). Although a 'display brightness' is recited in claim 1, a 'screen brightness' is also recited. What is meant by a screen brightness, for example, is a brightness of a backlight of a display unit such as a LCD (page 1 2, lines 8-1 2). Evanicky does not teach or suggest a screen brightness as recited in claim 1. In fact, as above mentioned, Evanicky discloses a calibration tool for adjusting a display brightness. However, Evanicky does not teach or suggest the cooperation of changing a screen brightness according to a detected display brightness to improve a visibility of a display unit to an user viewing the display unit. As such, Evanicky does not teach or suggest this cooperation in conjunction with the other elements of claim 1. Accordingly, claim 1 is allowable over the cited reference*" (see Page 8 of the Amendment filed 18 March 2008). However, the examiner respectfully disagrees.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *What is meant by a screen brightness, for example, is a brightness of a backlight of a display unit such as a LCD*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Evanicky discloses "*With reference now to FIG. 16, at step 1010, host computer 10 determines whether luminance sensor 800b is properly plugged in. In the present embodiment, luminance sensor 800b is configured for coupling to an I2C interface of the flat panel LCD monitor. Methods for determining whether a peripheral device is properly plugged into an I2C bus are well known in the art, and are therefore not described herein to avoid obscuring aspects of the present invention.*

*"At step 1020, a test sequence is initiated. The initialization process may include completely **shutting off the backlight** of the flat panel LCD monitor such that a 'pure' black color (or zero luminance level) may be determined by the luminance sensor 800b. It should be noted that this zero luminance level is different from the 'black' luminance level of a LCD screen with the **backlight turned on**. Further, the initialization process may include other well known self-testing steps to ensure that the luminance sensor 800b is working properly.*

*"At step 1030, with the **backlight 'on,'** a black luminance level of the LCD screen is measured by the luminance sensor 800b. Black luminance data will then be used for calculating the contrast ratio of the LCD screen.*

"At step 1040, after the luminance sensor 800b is initialized, an image or a series of images of known RGB values are displayed on the LCD screen. Luminance sensor 800b is then used to measure the luminance level of each RGB primaries displayed on the LCD screen. The results of the measurements are transmitted to the host computer system. As discussed above, according to one embodiment of the present invention, luminance data of the flat panel LCD screen may be transmitted back to the host computer system via a digital connection, such as digital bus 515, between the flat panel LCD monitor and the host computer.

*"At step 1050, the color temperature of the LCD screen is inferred from the luminance data measured by the luminance sensor. In the present embodiment, color temperature may be inferred from luminance data and provided that the phosphor ratios in the **light sources (e.g. light sources 132 and 136)** are known. The algorithm for calculating color temperature from luminance data of RGB primaries and known phosphor ratios in **the light sources** are well known in the art. Therefore, the intricate algorithms for performing such estimation are not described herein to avoid obscuring aspects of the present invention.*

*"At step 1060, the color temperature of the LCD screen obtained from step 1050 is compared to a reference color temperature value. **Relative intensities of the blue and red light sources of the backlight are then adjusted according to any discrepancies between the calculated color temperature and the reference color temperature value.** In the present embodiment, the reference color temperature is contained in a color profile stored in the host computer. The color profile may be provided by the manufacturer of the flat panel LCD monitor. Alternatively, the color profile may be created by the profiling process described above with*

respect to FIG. 15. For screen-to-screen matching applications, the color profile may be contain optical characteristics data of a 'master' display.

"At step 1070, the grayscale ramps for each of the RGB primaries are determined. The grayscale ramps are determined by measuring a plurality of equally spaced grayscale points for each of the RGB primaries at the LCD screen. For instance, the luminance levels for 32 equally spaced grayscale levels may be measured and used to construct a gamma curve of the LCD screen. Grayscale ramp data are then used by the host computer to determine a gamma value of the LCD display screen using well known methods and algorithms.

"At step 1080, the gamma value obtained from step 1070 is then compared with a reference gamma value contained in the color profile to generate an appropriate transfer function. In the present embodiment, the transfer function may comprise a ratio of input digital value and output digital value. Further, methods and algorithms for generating the appropriate transfer, function which maps one gamma curve to another are well known in the art. Accordingly, the details of the algorithms are not described herein to avoid obscuring aspects of the present invention.

"At step 1090, the transfer function obtained from step 1080 is loaded into the color LUT of the graphics controller. This transfer function accomplishes the mapping of the native transfer function of the display to the reference transfer function. In this way, the flat panel LCD screen is tweaked to arrive at the desired gamma value" (see Fig. 16; Column 18, Line 30 - Column 19, Line 47).

As such, *Evanicky* discloses a computer system [e.g., Fig. 1; 10], comprising:
a processor [e.g., Fig. 1; 12] for executing an arithmetic operation (see the entire document, including Column 6, Line 15 - Column 7, Line 12); and
a display unit [e.g., Fig. 2; 216] for displaying a result [e.g., Fig. 17; 1100] of the arithmetic operation executed by the processor (see the entire document, including Column 7, Lines 15-56);

wherein the processor executes the following processings:
detecting [e.g., Fig. 14D; 800] a display brightness in a certain window [e.g., Fig. 17; 1140] displayed on a screen [e.g., Figs. 2 & 17; 210] of the display unit; and
controlling the display unit so as to change a screen brightness of the display unit according to the detected display brightness in the window (see the entire document, including Column 18, Line 30 - Column 20, Line 24) to change the display brightness [e.g., Fig. 16; 1060] to improve a visibility of the display unit to an user viewing the display unit (see the entire document, including Column 2, Lines 27-60).

The Applicant contends, "*As above mentioned, Evanicky discloses a graphic user interface which provides a color profiling or calibration tool for adjusting the display brightness of images in a window. However, Evanicky does not teach or suggest a back-light for lighting a liquid crystal display screen as recited in claim 3. Furthermore, Evanicky does not teach or suggest the cooperation of a brightness control signal, which is generated according to a display brightness in a specific area, and a back-light of a liquid crystal display screen. Evanicky also does not teach or suggest that the back-light of the liquid crystal display screen is changed*

according to the display brightness in a specific area and that the cooperation of the brightness control signal and the back-light is utilized to improve a visibility of the display unit to an user viewing the display unit. Additionally, Evanicky does not teach other limitations recited in claim 3" (see Page 9 of the Amendment filed 18 March 2008). However, the examiner respectfully disagrees.

*Evanicky discloses "The white balance adjustment for a display is important because many users want the ability to alter the display's color temperature for a variety of different reasons. For instance, **the color temperature might be varied based on a viewer's personal taste**. In other situations, color temperature adjustment may be needed to **compensate for manufacturing variations in the display**. In some situations, color temperature adjustment can **correct for the effects of aging in some displays**. Particularly, color critical applications such as pre-press soft proofing, desktop publishing, graphics design, medical imaging, and, digital photography and video editing, etc., require white balance values and gamma values of different displays to be **precisely matched in order to accurately view and exchange images with confidence**. Thus, without an efficient and effective method of providing dynamic white balance adjustment capabilities, flat panel LCDs have heretofore been unused in color critical applications which **require precise color calibration and matching**. Therefore, what is, needed is an **efficient and effective method of providing dynamic white balance adjustment capabilities in flat panel LCDs**.*

*"Accordingly, the present invention provides a display for mechanism and method for **dynamically adjusting the color balance** of a flat panel liquid crystal display **without***

*compromising the gray-scale resolution of the pixels. Further, the present invention provides a mechanism and method for adjusting the color balance of a flat panel display screen without complicated circuitry. Embodiments of the present solution also performs gamma correction and frame rate time domain modulation to **reduce scalloping and visual artifacts**. These and other advantages of the present invention not specifically mentioned above will become clear within discussions of the present invention presented herein" (see Column 2, Lines 27-47).*

As such, **Evanicky** discloses a liquid crystal display unit [e.g., Fig. 2; 216], comprising:
a liquid crystal display screen [e.g., Figs. 2, 3, and 17; 210] for displaying a first image
(see the entire document, including Column 7, Line 57 - Column 10, Line 14);

a back-light [e.g., Fig. 3; 132, 136] for lighting the liquid crystal display screen; and
a brightness controller [e.g., Fig. 1; 12] for controlling a brightness of the back-light (see
the entire document, including Column 7, Lines 15-56);

wherein the brightness controller executes the following processings:

receiving a brightness control signal [e.g., Fig. 14D; 800] generated according to a
display brightness in a specific area [e.g., Fig. 17; 1140] calculated from a draw signal in a
second image in the specific area (see the entire document, including Column 19, Line 48 -
Column 20, Line 24),

the second image being selected from a plurality of images to be displayed in the liquid
crystal display screen; and

changing the brightness [e.g., Fig. 16; 1060] of the back-light according to the brightness
control signal (see the entire document, including Column 18, Line 30 - Column 19, Line 47) to

change the display brightness to improve a visibility of the display unit to an user viewing the display unit (see the entire document, including Column 2, Lines 27-60).

Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

Conclusion

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeff Piziali/
Primary Examiner, Art Unit 2629
3 June 2008